

PATENT  
Atty Docket No. 1098-011/MMM

Remarks

Claims 1-21 are in the application. Claims 1, 10, and 16 are in independent form. Reconsideration is requested.

Claims 1-21 are rejected under 35 U.S.C. 103(a) for obviousness over Miller (U.S. Patent No. 5,878,228) in view of Lipkin (U.S. Patent No. 6,721,747). The Examiner states that it would have been obvious to apply the use of multiple "agents" to the scheduling system of Miller to "provide a much more flexible and sophisticated manner when it comes to searching and discovering information." Applicants respond as follows.

Miller describes a data transfer protocol and, in particular, a data transfer server implementing the protocol. The protocol, referred to as a binary large asset stateless transfer (BLAST) data communications protocol, provides a mechanism for transferring data files from a server 12 to any of a plurality of clients 14 which communicate through signaling carried by a data network 10. A protocol data unit (PDU) includes a PDU scheduler 28 with a scheduling queue 32. The PDU scheduling queue 32 may be constructed as a circular queue of scheduling timeslots 34, each of which is a data structure formatted as a list of download records 36. The download records 36 represent downloads in progress and each record 36 contains the file identifier, the PDU size and interval, the destination client address and port, the client unique transaction ID, and the remaining bytes to be sent for that download. (Miller, col. 10, lines 26-35.)

Lipkin describes an information resource system for managing and retrieving information over a network, such as searching for and discovering information (e.g., web resources on the World-Wide Web). The system generates metadata using an import agent, determines at least one match using a match agent, and dispatches the at least one match or a result associated with the match using a delivery agent. (Lipkin, col. 2, lines 16-21.) The system functions as a query and delivery mechanism and includes an Information Distributor Server 521 (Fig. 5) that defines a high-level query language and a set of agents for implementing information services, which include a MetadataRepository--A datastore for querying metadata, an ImportAgent--an agent for

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generating metadata, a MatchAgent--an agent for locating metadata-based matches, and a DeliveryAgent--an agent for delivering match results. (Lipkin, col. 5, lines 54-64.)

Applicants submit that the cited references do not teach or suggest the subject matter of claims 1-21 and request that the rejection be withdrawn for the following reasons.

Amended application claim 1 recites:

A scalable agent service scheduling method that supports plural computer software agents to perform tasks for plural client computation devices, the method comprising:

obtaining an isochronal table of plural agent service activation times over a recurring time period at which periodic agent service tasks can be activated, the isochronal table including a predefined time interval between each of the successive activation times;

characterizing each periodic agent service task as including an initial task and one or more successive tasks to be activated periodically, the initial task having an initial event time;

applying the initial event time of the initial task of each periodic agent service task to a corresponding activation time in the isochronal table;

determining a skipping interval representing a number of activation times in the isochronal table corresponding to the period at which each of the one or more successive tasks of a periodic agent service task are to be activated periodically;

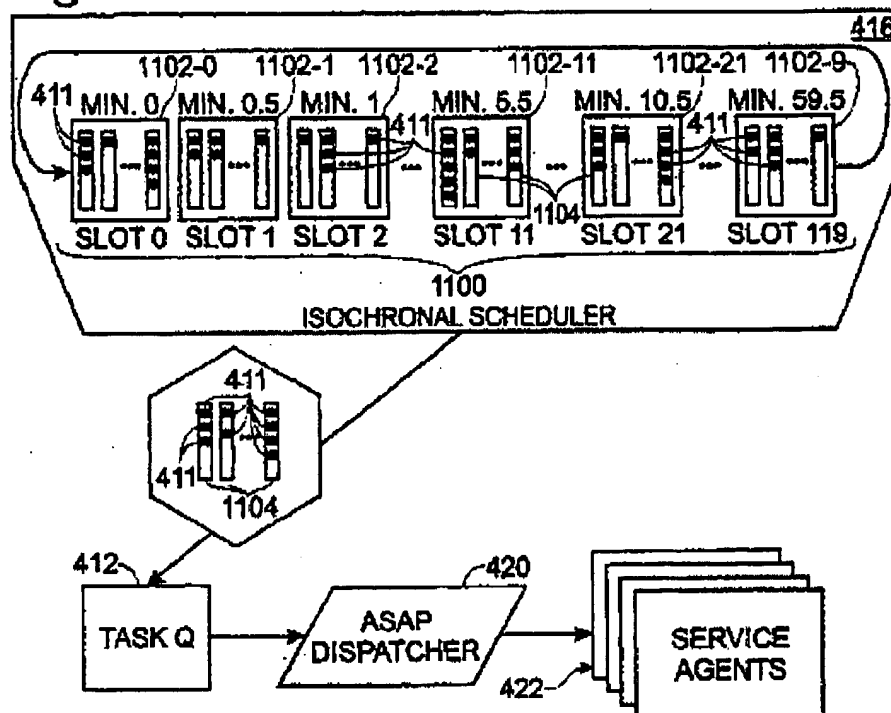
storing at activation times determined by the skipping interval the one or more successive tasks of each periodic task to be activated periodically; and

passing as one or more batches the tasks for each activation time for processing by one or more computer software event agents when the activation time occurs.

Independent claims 10 and 16 have been amended analogously. Dependent claims 3-5, 7, 12, and 17 have been amended to be consistent with their respective independent claims.

In accordance with the recited scalable agent service scheduling method, amended claim 1 clarifies that the activation times are agent service activation times that relate to periodic agent service tasks. The interaction between the scheduled activation times and the service agents is illustrated in Fig. 11 of the application, which is reproduced below.

Fig. 11



Applicants submit that the cited references do not teach or suggest the subject matter of the present claims.

Miller is directed to operation of a data transfer server that transfers data to plural clients according to a scheduling queue of timeslots, each of which is a data structure formatted as a list of download records. The download records represent downloads in progress and each record contains the file identifier, the PDU size and interval, the destination client address and port, the client unique transaction ID, and the remaining bytes to be sent for that download. Miller provides no teaching or suggestion of applying a scheduler to the operation of service agents to provide scalable operation of functional agents. Instead, Miller is directed solely to data transfers.

Lipkin is directed to a system that is used to search for and retrieve information on a computer network, such as the World Wide Web, and includes an ImportAgent for generating metadata about information on the network, a MatchAgent for locating metadata-based matches, and a DeliveryAgent for delivering match results. Lipkin

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provides no teaching or suggestion that relates to the operation of a data transfer server.


Miller and Lipkin relate to entirely different computing functions and a person of ordinary skill in the art would have no reason to consider the scheduling operation of the data transfer server of Miller in relation to the search system of Lipkin. Neither Miller nor Lipkin provides any teaching or suggestion to schedule the operation of the ImportAgent, the MatchAgent, or the DeliveryAgent. Moreover, there is no indication as to why the operation of the ImportAgent, the MatchAgent, or the DeliveryAgent would be scheduled on a periodic basis.

Applicants submit, therefore, that there is no teaching or suggestion to combine the data transfer scheduling operation of Miller with the search system agents of Lipkin. Moreover, even if combined, there is no teaching or suggestion to schedule periodic operation of the search system agents of Lipkin. Accordingly, applicants submit that claims 1-21 are patentably distinct from the cited references and request that the rejection be withdrawn.

Applicants believe the application is in condition for allowance and respectfully request the same.

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Respectfully Submitted,

  
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